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Notice of Allowability	Application No.	Applicant(s)	
	10/702,413	YOKHIN, BORIS	
	Examiner	Art Unit	
	Courtney Thomas	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to the amendment filed 11/14/05.
- 2. ☒ The allowed claim(s) is/are 1-50.
- 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-50 are allowed.
2. The following is an examiner's statement of reasons for allowance:
3. **As per claims 1, 35, 48 and 50 and dependent claims 2-13 and 36-46**, the examiner found no reference in the prior art that disclosed or made obvious a method (and corresponding apparatus) for inspection of a sample comprising the step of: receiving scattered polychromatic X-rays from a sample at a plurality of scattering angles using one or more sensors that generate output signals indicative of the respective photon energies of the X-ray photons that are incident thereon at each of the plurality of scattering angles, as recited in independent claims 1, 35, 48 and 50.
4. **As per claim 14 and dependent claims 15-24**, the examiner found no reference in the prior art that disclosed or made obvious a method for inspection of a sample comprising the steps of irradiating a sample with polychromatic beam of X-rays comprising at least first and second X-rays having distinct, respective first and second photon energies; detecting first and second X-ray s scattered from the sample at a plurality of scattering angles and analyzing detected X-rays so as to determine a scattering profile of the sample at the first and second photon energies, as recited in independent claim 14.
5. **As per claims 25, 47 and 49 and dependent claims 26-34**, the examiner found no reference in the prior art that disclosed or made obvious an apparatus for inspection of a sample comprising a radiation source adapted to irradiate a sample with a polychromatic beam of X-rays, comprising first and second X-rays having distinct, first and second photon energies; an

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array of detector elements arranged to receive the first and second X-rays, scattered from the sample at a plurality of scattering angles and to generate a signal responsively to the received radiation and a signal processor configured to process the signal from the detector elements so as to determine a scattering profile of the sample at the first and second photon energies, as recited in independent claim 25, 47 and 49.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **U.S. Patent 4,284,887 to Kusumoto et al.** discloses an apparatus and corresponding method for inspection of a sample, comprising a polychromatic X-ray source, used to irradiate a sample. Diffracted X-rays are detected and used to determine properties of the sample.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Courtney Thomas *CT*
Examiner
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A handwritten signature in black ink, appearing to read "David V. Bruce", written in a cursive style.

DAVID V. BRUCE
PRIMARY EXAMINER